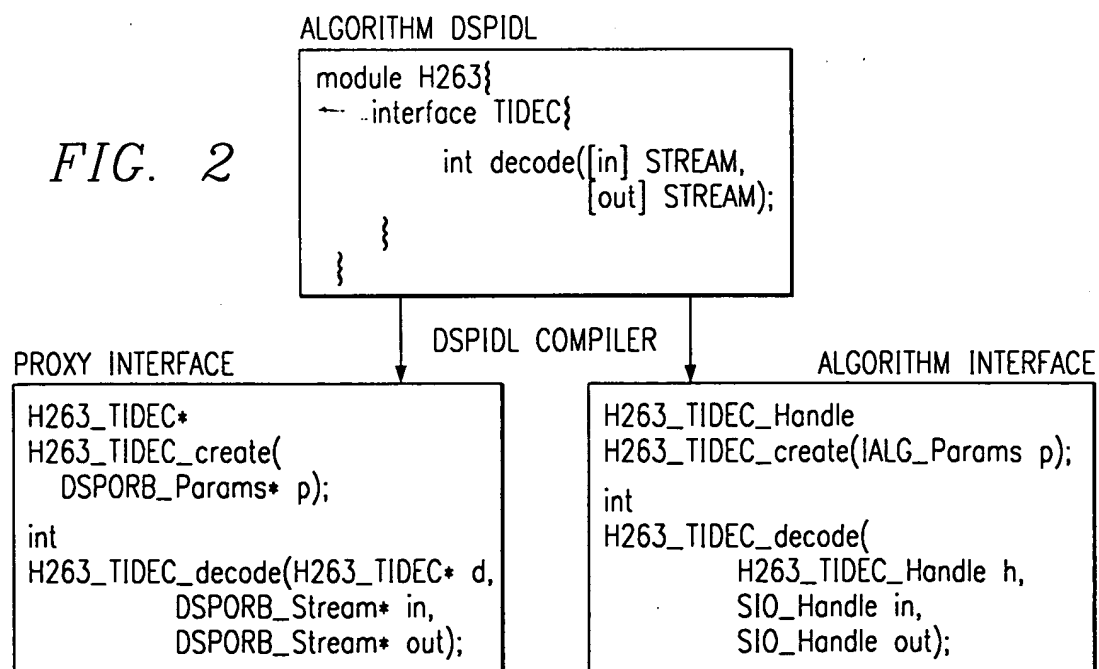
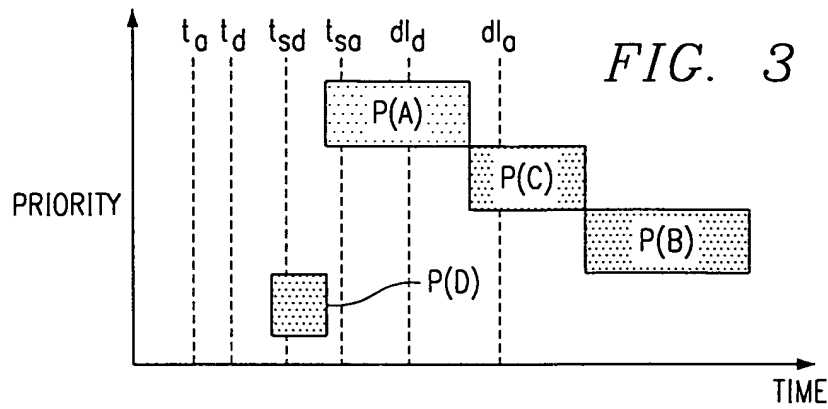


FIG. 1

→ DATA TRANSFERRED  
 ----> DATA NOT TRANSFERRED

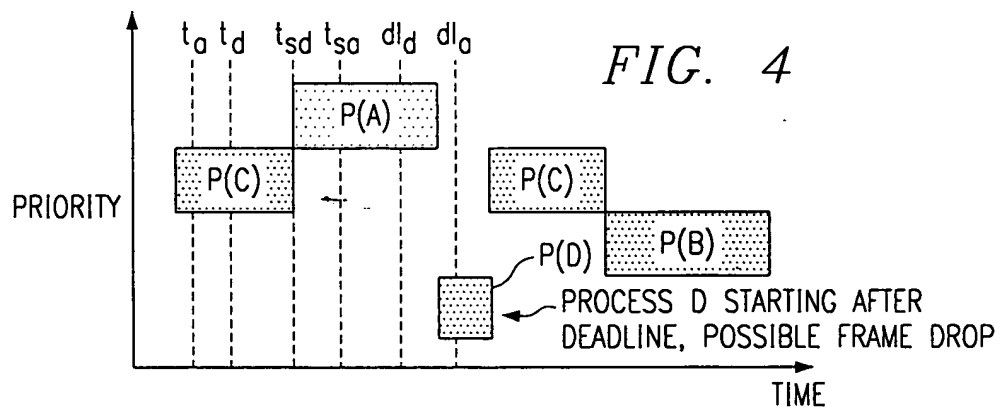
FIG. 2





$t_{so}$  = LAST POSSIBLE TIME FOR PROCESS A  
TO START AND STILL MAKES ITS DEADLINE

$t_{sd}$  = LAST POSSIBLE TIME FOR PROCESS D  
TO START AND STILL MAKE ITS DEADLINE



$t_{so}$  = LAST POSSIBLE TIME FOR PROCESS A  
TO START AND STILL MAKES ITS DEADLINE

$t_{sd}$  = LAST POSSIBLE TIME FOR PROCESS D  
TO START AND STILL MAKE ITS DEADLINE

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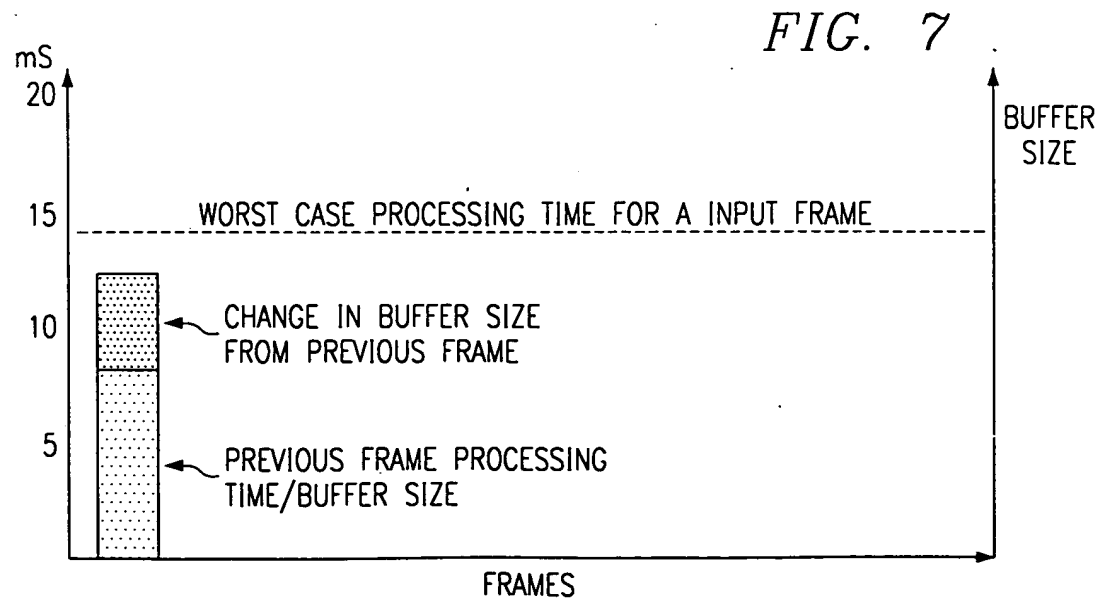
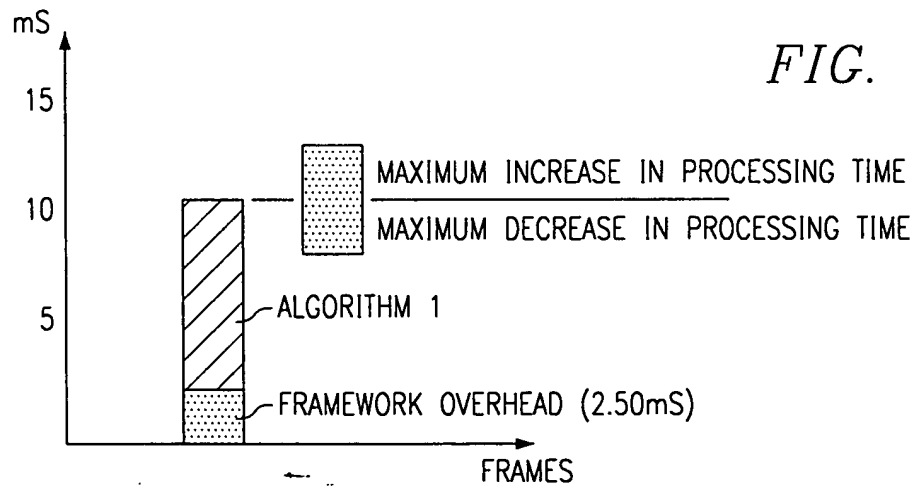
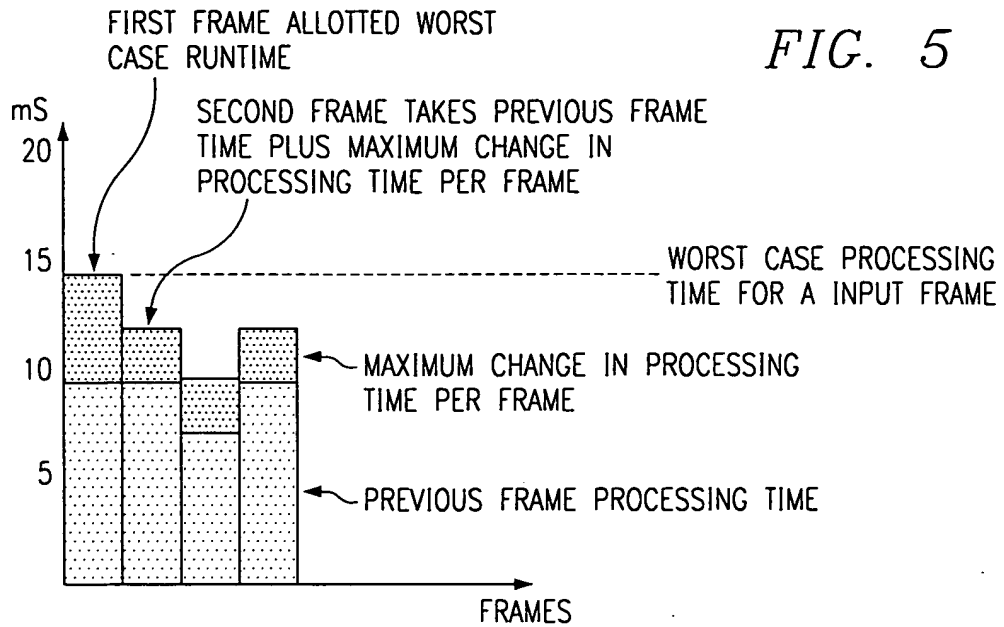


FIG. 8

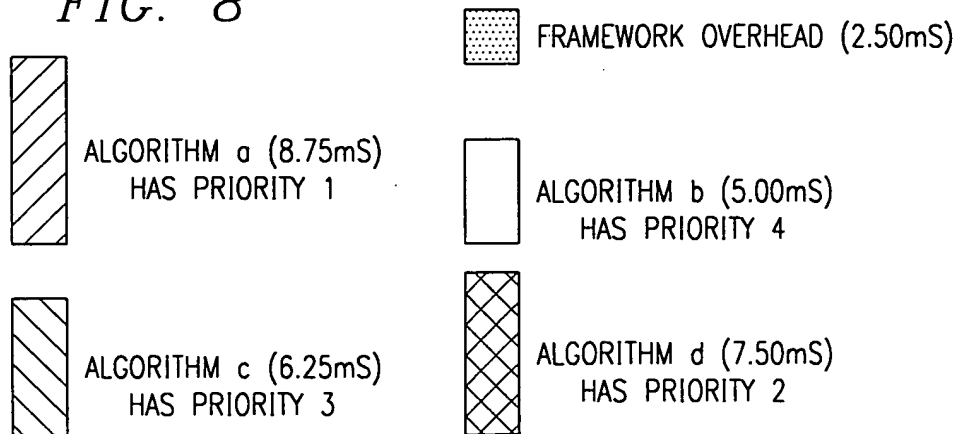
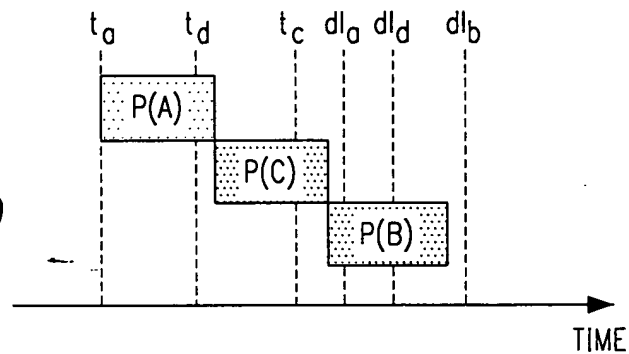


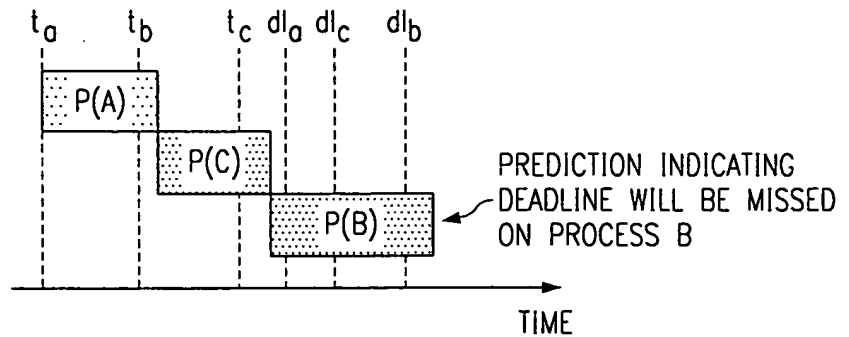
FIG. 9



- $t_i$  = TIME STAMP ARRIVAL OF EACH DATA FRAME FOR THE RESPECTIVE PROCESS
- $dl_i$  = DEADLINE FOR FINISHING PROCESSING OF EACH RECEIVED DATA FRAME
- $P()$  = PREDICTION OF PROCESSING TIME FOR EACH RECEIVED DATA FRAME

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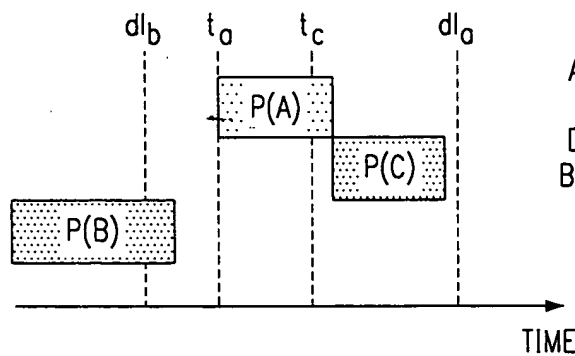
FIG. 10



$t_i$  = TIME STAMP ARRIVAL OF EACH DATA FRAME FOR THE RESPECTIVE PROCESS

$dl_i$  = DEADLINE FOR FINISHING PROCESSING OF EACH RECEIVED DATA FRAME

$P()$  = PREDICTION OF PROCESSING TIME FOR EACH RECEIVED DATA FRAME



BOTH PROCESS A AND C ARE PREDICTED TO COMPLETE BEFORE THEIR RESPECTIVE DEADLINES MEANING PROCESS B MISSING ITS DEADLINE DOES NOT RIPPLE THROUGH THE SYSTEM (YET)

$t_i$  = TIME STAMP ARRIVAL OF EACH DATA FRAME FOR THE RESPECTIVE PROCESS

$dl_i$  = DEADLINE FOR FINISHING PROCESSING OF EACH RECEIVED DATA FRAME

$P()$  = PREDICTION OF PROCESSING TIME FOR EACH RECEIVED DATA FRAME

FIG. 11

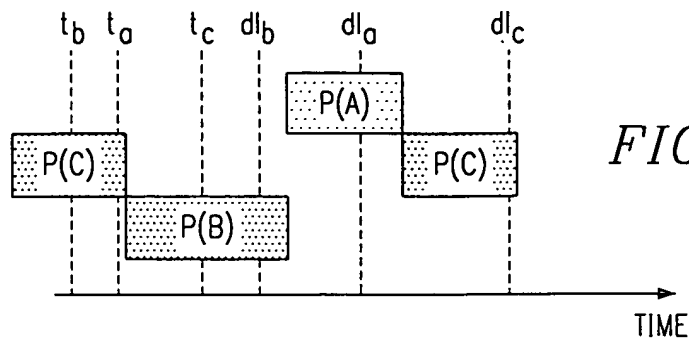


FIG. 12

- $t_i$  = TIME STAMP ARRIVAL OF EACH DATA  
FRAME FOR THE RESPECTIVE PROCESS
- $dl_i$  = DEADLINE FOR FINISHING PROCESSING  
OF EACH RECEIVED DATA FRAME
- $P()$  = PREDICTION OF PROCESSING TIME  
FOR EACH RECEIVED DATA FRAME

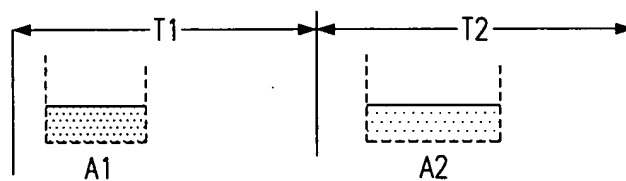


FIG. 13a

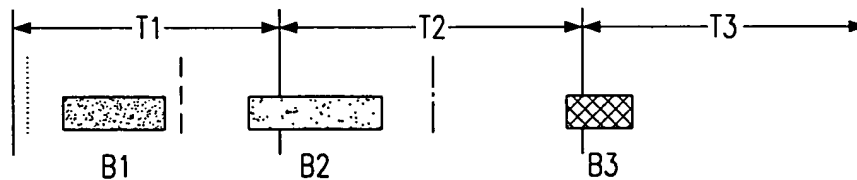
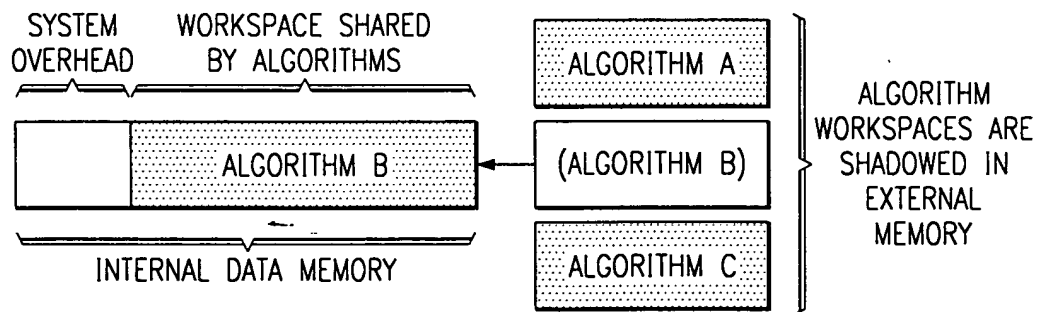
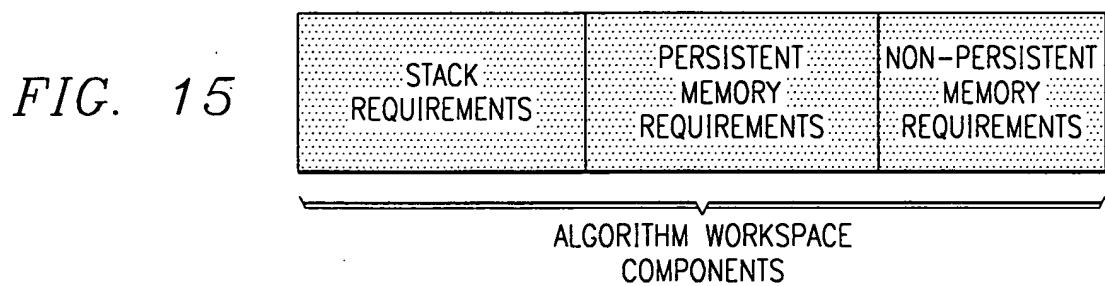
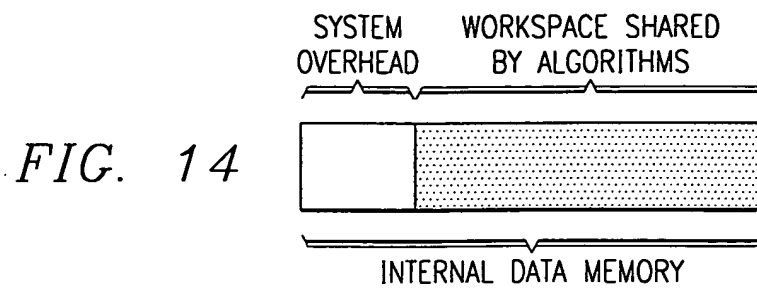


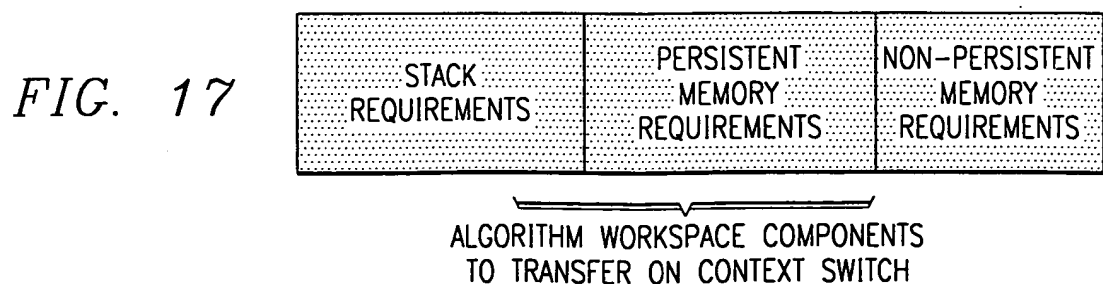
FIG. 13b

- ..... ARRIVAL OF BUFFER B1
- ARRIVAL OF BUFFER B2
- ARRIVAL OF BUFFER B3

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*FIG. 16*



STACK REQUIREMENTS	PERSISTENT MEMORY REQUIREMENTS	PERSISTENT READ ONLY MEMORY REQUIREMENTS	NON-PERSISTENT MEMORY REQUIREMENTS
-----------------------	--------------------------------------	---	--

FIG. 18

ALGORITHM WORKSPACE COMPONENTS TO  
TRANSFER IN PRIOR TO ALGORITHM EXECUTION  
IF ALGORITHM REQUIRES CONSTANT TABLES  
(CONTEXT SWITCH IN ONLY)

STACK REQUIREMENTS	PERSISTENT MEMORY REQUIREMENTS	PERSISTENT READ ONLY MEMORY REQUIREMENTS	NON-PERSISTENT MEMORY REQUIREMENTS
-----------------------	--------------------------------------	---	--

READ ONLY PERSISTENT MEMORY DOES  
NOT NEED TO BE TRANSFERRED OUT ON  
CONTEXT SWITCH. THEREFORE ALGORITHM  
PAGE CHANGE-OUT IS MORE EFFICIENT.

FIG. 19

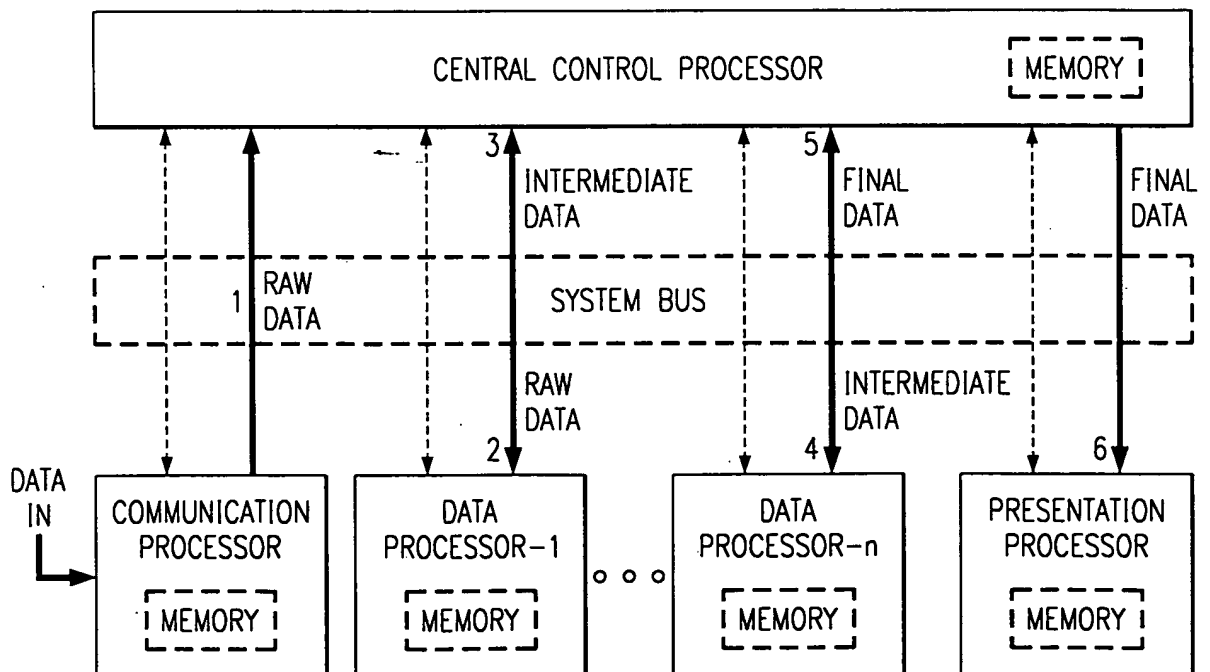


FIG. 20  
(PRIOR ART)

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FIG. 21

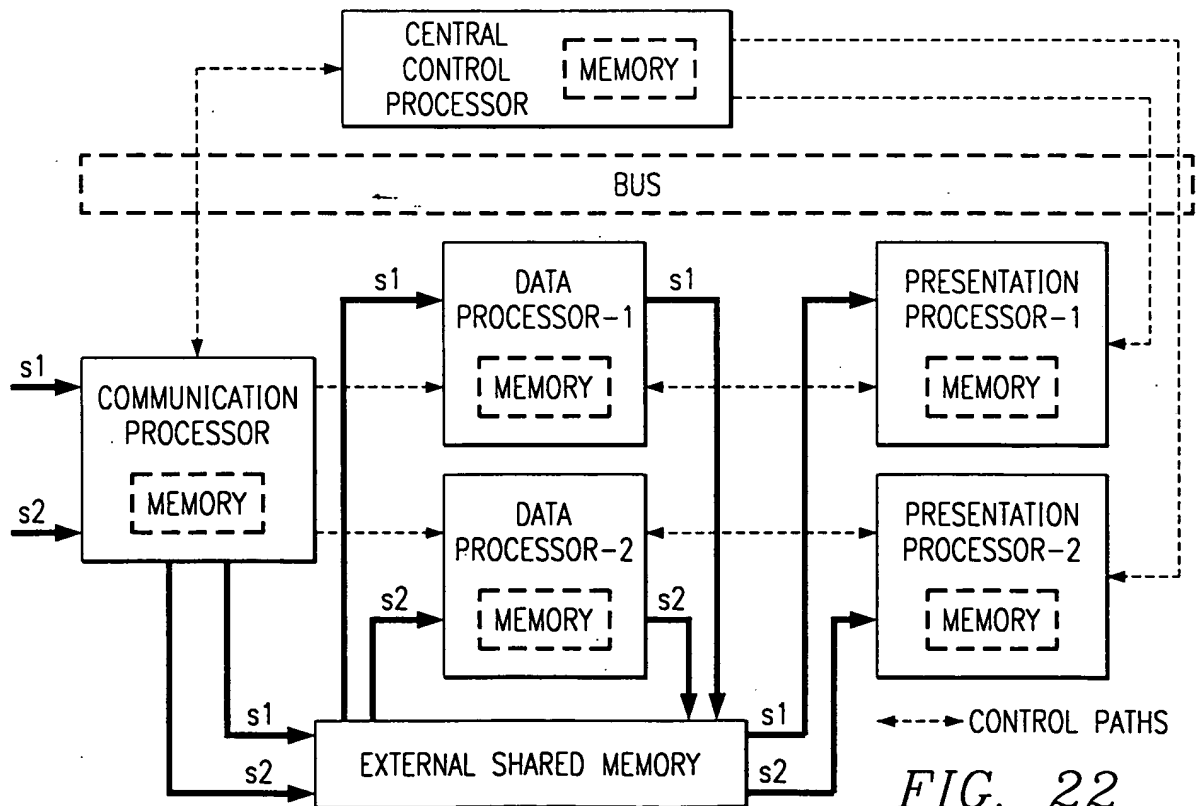
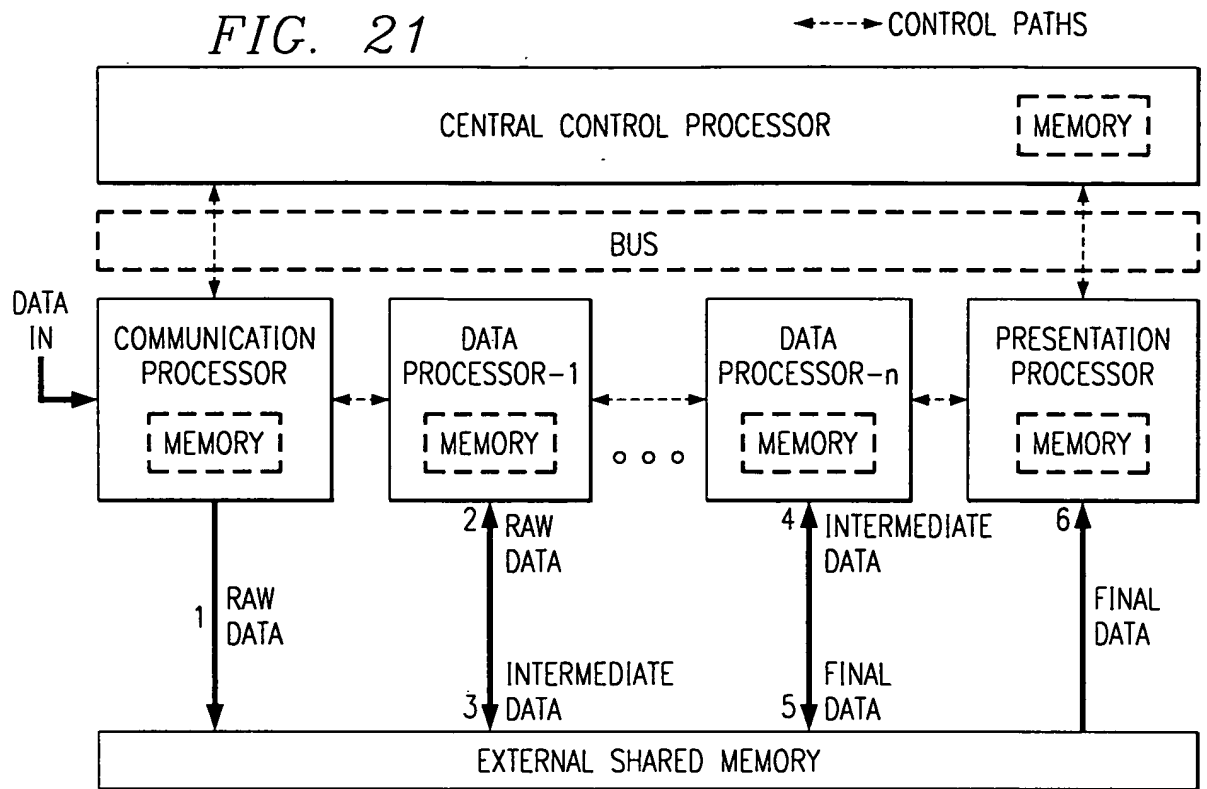


FIG. 22

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FIG. 23

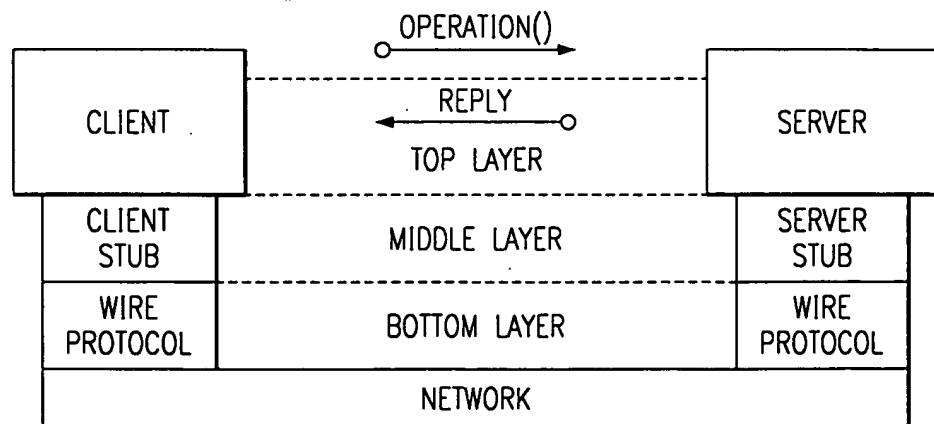
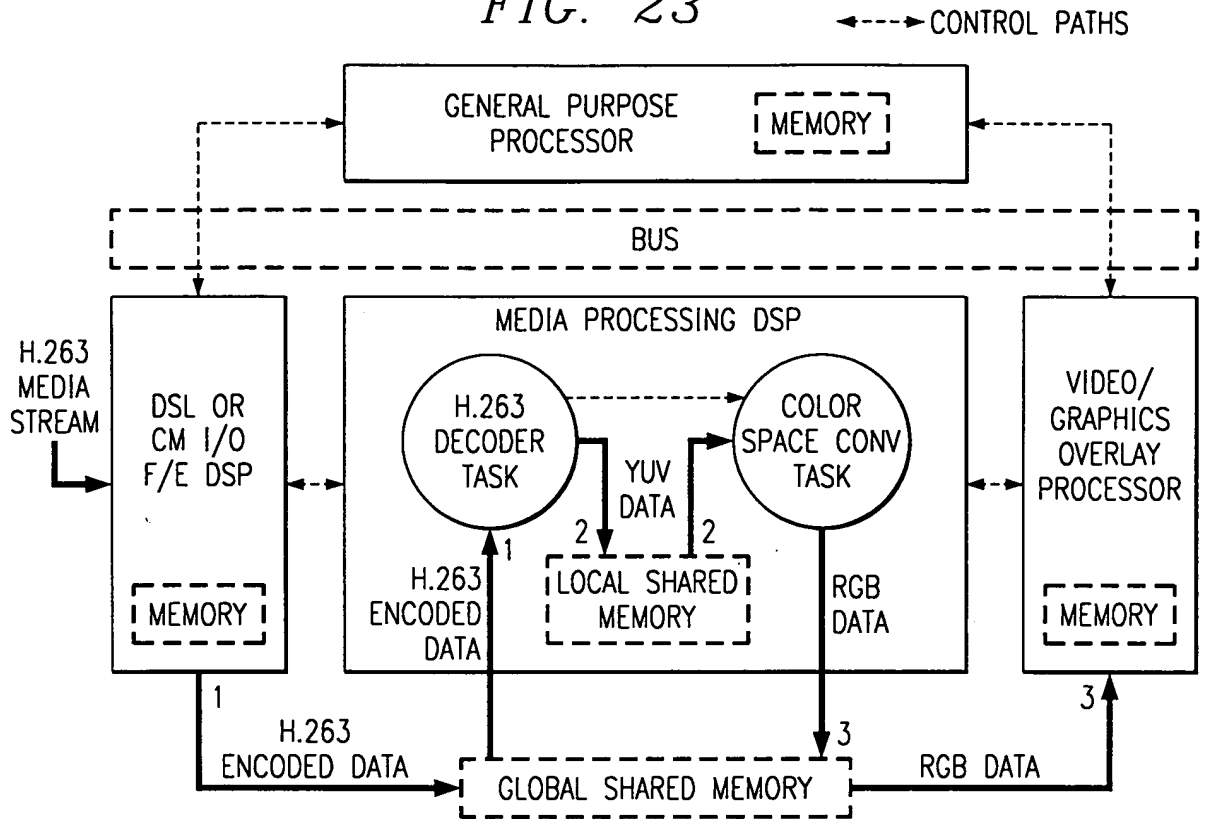


FIG. 24

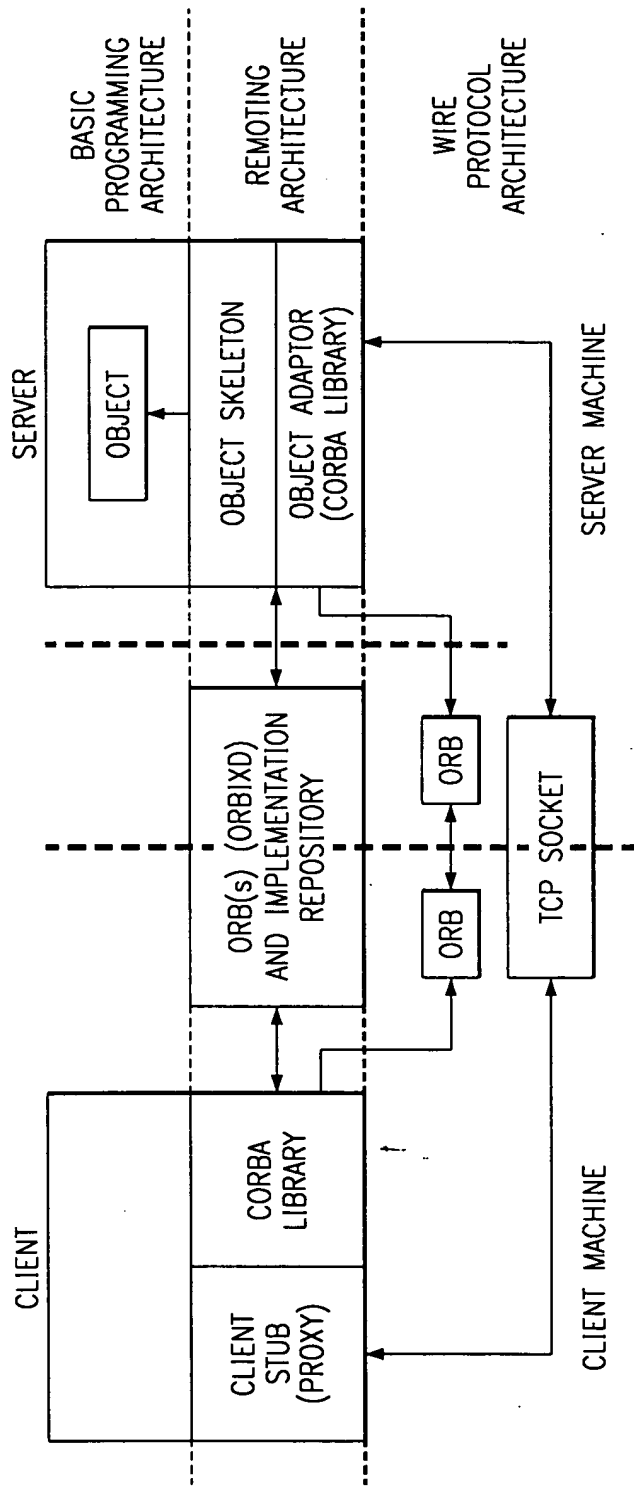


FIG. 25

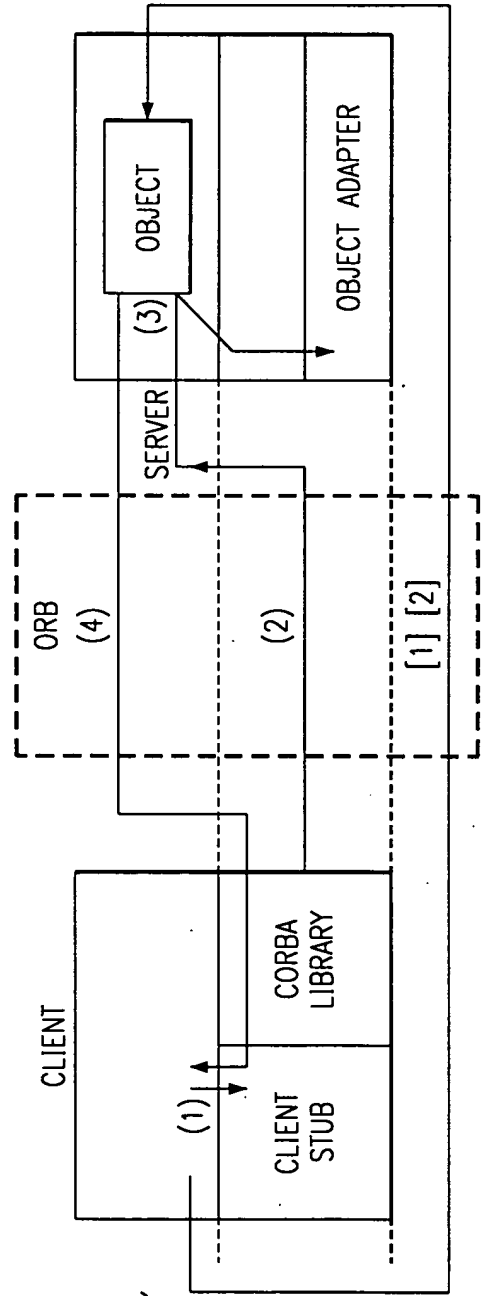


FIG. 26a

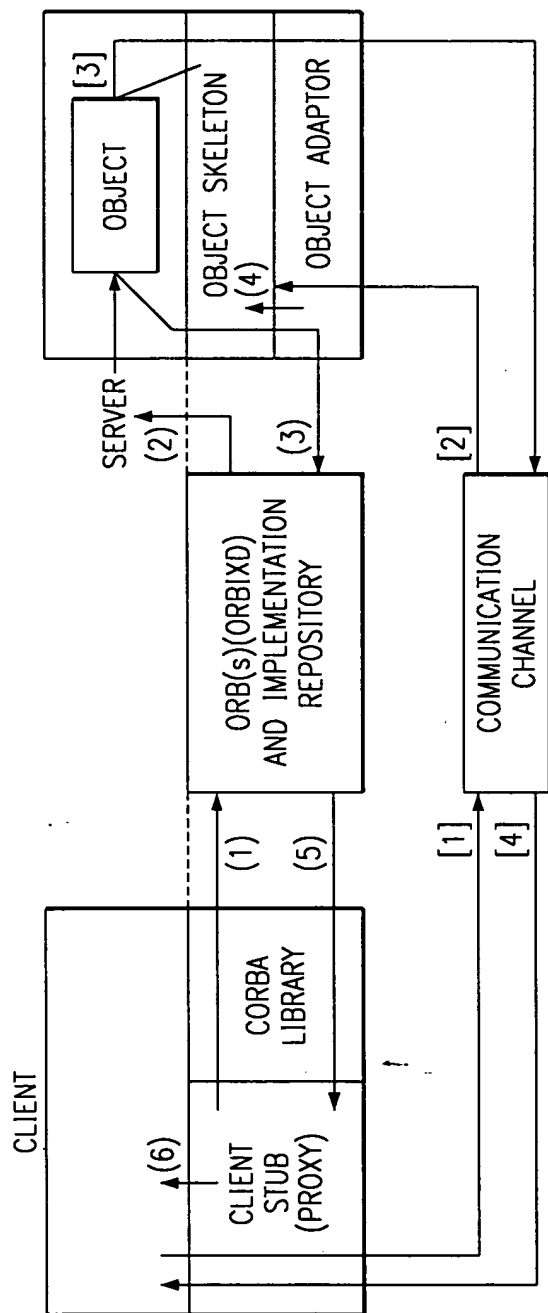


FIG. 26b

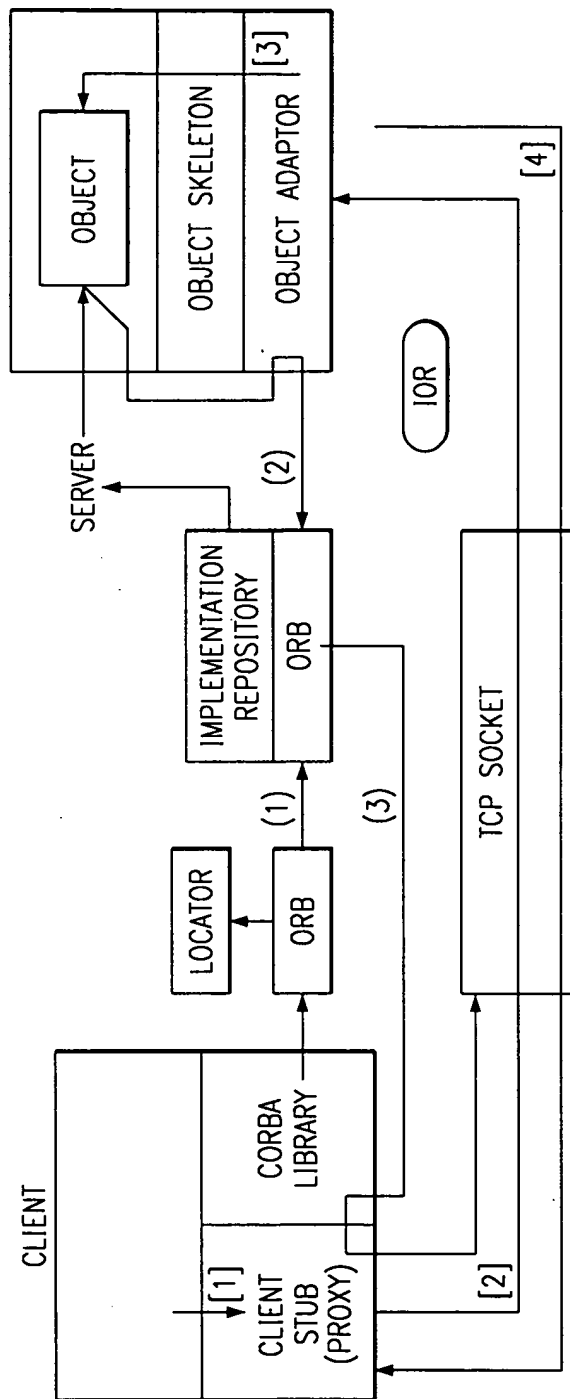


FIG. 26c

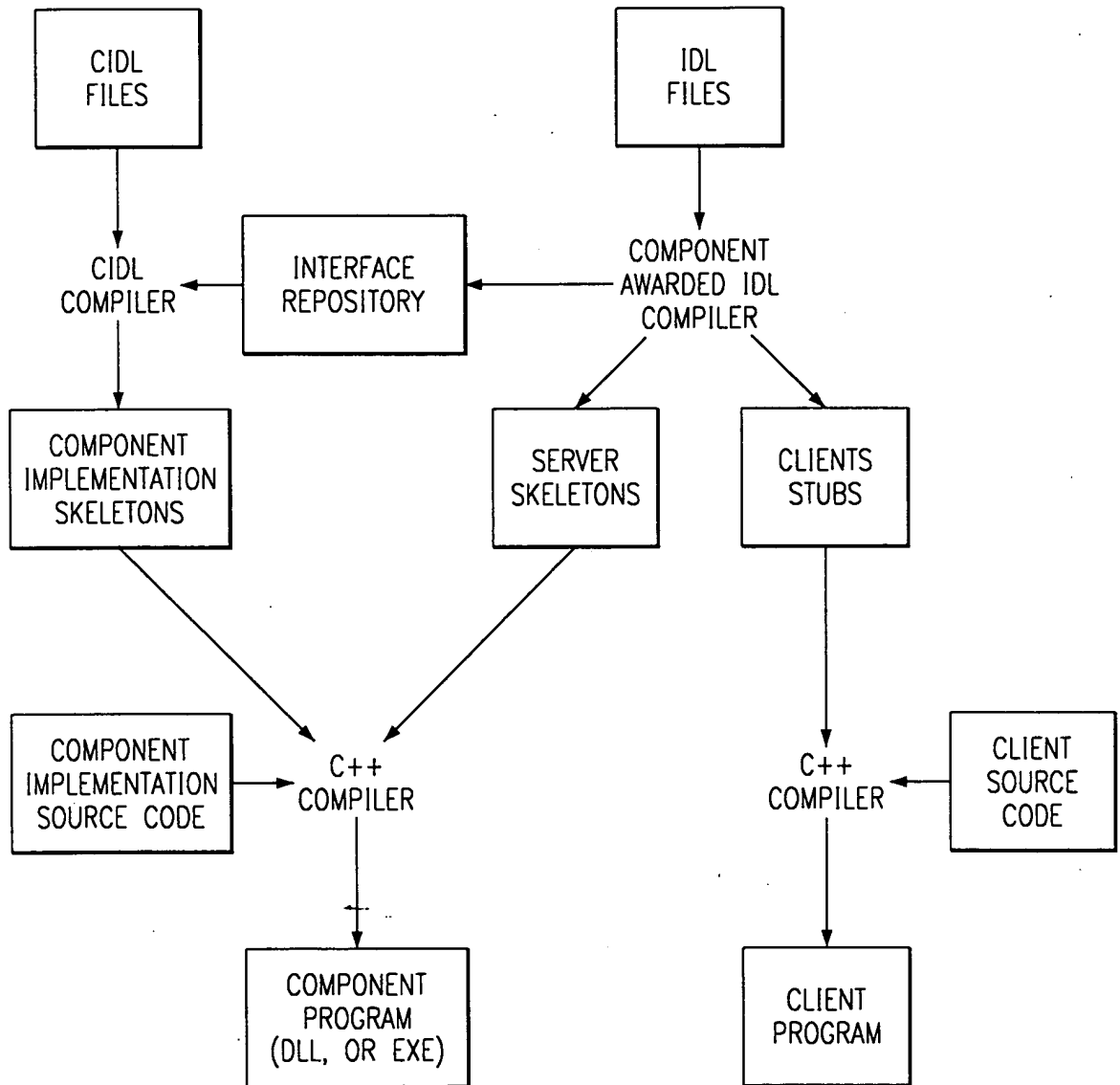


FIG. 27